Enhancement for File Sharing Systems

Mr. Abukar Mohamed Bashir

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ABSTRACT

File Sharing System is one of the oldest applications of the internet. One way of host Files online is for a Lecturer to upload files to a common space on the web and Student can download the files from the common web space. This study is to develop a web based file sharing management system that will help the every person file sharing management system type of software that manages data files in a computer system. It has limited capabilities and is designed to manage individual or group files, such as special office documents and records. It may display report details, like owner, creation date, state of completion and similar features useful in an office environment.

The main objective of this project is how to get file sharing, to shorten file uploading and downloading time and responsive and efficiency design. The concept on which the file sharing Management System is built has noticeable potential, and the opportunity to grow and improve.

Keywords: FTP, File, Peer-to-Peer, upload, download.

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مستخلص

يعدّ نظام مشاركة الملفات واحدا من أقدم تطبيقات الإنترنت. وهناك طريقة مخصصة للمحاضر لتحميل الملفات في مساحة مشتركة على شبكة الإنترنت يمكن من خلالها للطلاب تنزيل ملفات المحاضر.

هذه الدّراسة عبارة عن تطوير نظام إدارة الملفات على شبكة الإنترنت التي من شأنها أن تساعد على نظام إدارة الملفات المشاركة لكلّ شخص والذي تديره ملفات البيانات في الكمبيوتر، ولها قدرة محدّدة وصُممت لإدارة الملفات الفردية أو الجماعية، مثل السجلات والوثائق المكتبية الخاصة. وقد يعرض تفاصيل التقرير مثل: المالك، تاريخ الإنشاء، حالة الانتهاء، وميزات مماثلة مفيدة في البيئة المكتبية.

إن الهدف الرئيسي من هذا المشروع هو: كيفية الحصول على الملفات المشاركة، تقصير الزّمن الّذي يستغرقه تحميل الملف وتنزيله واستجابته، وكفاءة التصميم.

إن الفكرة التي بني عليها نظام إدارة الملفات المشاركة لها إمكانات ظاهرة، وفرصة للنمو والتحسن.

الكلمات الرّئيسية- (FTP بروتوكول نقل الملفات)، ملف، (Peer-to-peer الندّ للندّ: بروتوكولٌ أوتقنية من تقنيات شبكة الانترنت، تستخدم لتبادل الملفات بين مستخدمي شبكة الانترنت). تحميل، تنزيل.

I. INTRODUCTION

Online File Sharing is practice of sharing files among different users across the internet. Common forms of file sharing are FTP (File Transfer Protocol) model and P2P (Peer-to-Peer) file sharing network. Another common form of sharing files over the internet is for a user to upload files to a website and allow other users to download them from the website. There are a lot of issues to consider when developing such a website. (PALANIAPPAN RAMANATHAN, 2004,p.7).

This study is used for sharing between instructors and students can upload documents, images, worksheets, presentations, zip files, Students can download documents shared by the instructor or by other students Documents can be viewed, built, revised, or recreated and then uploaded for the entire class. (Document online file sharing, 2012,p.2).

This innovative system allows faculties to share important data as well as notifications with students. It consists of a faculty login along with student login. Since faculties operate through pc or mobile and document uploading is simpler through a pc, the faculty login is to be performed through a computer. Faculty may upload documents of subject, document, notifications, e notes etc. through their provided login. The documents are uploaded by faculty to different corresponding departments. We propose to build this system on an online server that allows faculty to upload data and students may view search and download required documents, so students only see and download data of their particular semester. Rest data is hidden. Faculties may access and upload/edit documents to any semester or add any notice as desired. (Nevon, 2016,p.6).

Instructors build an educational course using an application referred to as a course manager in order to generate an electronic syllabus. Examples of an electronic syllabus are provided below, and the term «electronic syllabus» refers to information electronically accessible and providing an indication of content for an on-line course or an indication of assignments for an on-line course. (Robert N. Helmick, Cherry Hills, 2004,p.6).

The system posts the syllabus for the course on-line Users participating in the course use web browsers or other applications on their computers to view the syllabus and participate in the on-line course. The users interact with the instructor and other users in the course, and they submit information on-line, such as completion of assignments, (Robert N. Helmick, Cherry Hills, 2004,p.6).

The on-line educational system also increases options and tools for teaching courses and participating in the courses. Instructors may provide traditional lectures in the form of recorded video or audio information provided on-line to users, and may also provide traditional reading assignments by posting documents on-line for the users. In addition, they may provide many other types of teaching through computer-based tools. They may participate in on-line real-time discussions. They may interact with users in non-real-time discussions by posting topics for discussion and later posting comments on the discussion. By posting hypertext links, they may direct users to content on the Internet for research related to an educational course. Electronic journals permit users to enter information such as text related to the course, and an instructor can access the journal to review and comment on the information. Instructors and users can send data to others in the course. (Robert N. Helmick, Cherry Hills, 2004,p.6).

The course manager may also permit selectively providing on-line access an a course manager screen electronically displays information for use in permitting an instructor to develop an on-line course for the on-line educational system. The screen includes a unit section for receiving an identification of units each representing portions of an educational course, an assignment section for receiving an identification of assignments for the units, and a content section for receiving an identification of educational materials for the units. (Robert N. Helmick, Cherry Hills, 2004,p.6).

A. History of file sharing

The history of file sharing began in 1971, when the first floppy disk drive became commercially available from IBM. At a size of 8 inches, this massive disk has a formatted storage capacity of just less than eighty kilobytes. This was effectively the first time that widespread file sharing could occur beca use it was the first time a format that allowed for relatively simple file transfer was available. In 1976, a company called Shugart Associates created the first 5 and a quarter inch floppy disk. Other companies adopted this standard and began to build five and a quarter inch drives of their own. (M.S. Smith, 2011,p.2).

While floppy disks allow for sharing of files for those who could physically exchange media, Ward Christensen opened up a new gateway for file sharing in 1978 by creating the first online bulletin board system. This allowed users to share files online, although this was not part of the Internet as we know it today until the 1990s. Bulletin board systems were in fact accessed through phone lines, so users were often local. In 1979 yet another method of online file sharing, Usenet, was created. Usenet was not created with file sharing as a goal, but it was a feature that users increasingly took advantage of as modem speeds increased. (M.S. Smith, 2011, p.2). The next major milestone in file sharing was the creation of FTP in 1985, or File Transfer Protocol. FTP allowed users to exchange files over a standard TCP/IP based network. It is still used today as one of the most popular methods of file sharing among both individuals and corporations. This was followed in 1988 by another still popular program, IRC. While IRC was created to host chat rooms, it allowed user-to-user file transfers, a feature many embraced. (M.S. Smith, 2011,p.2). In 1991, the World Wide Web, at that stage a project lead by Tim Berners-Lee and supported by numerous people across the globe, became publicly available. It is doubtful that anyone involved with the project new just how important the project would become. Throughout the early 1990s, the World Wide Web grew to become the foundation of Internet navigation that we are familiar with today. In doing so, it has become the largest file sharing network ever created. (M.S. Smith, 2011,p.2).

II. THEORETICAL BACKGROUND

A. Concepts of file sharing & its importance

File sharing is as much of the modern world as cell phones or cars, and while the term "file sharing" often conjures of images of illegal piracy, the term actually covers a general range of actions that most computers users undertake every day. Today's computers are file-sharing machines capable of sending and receiving files through email, the Internet, thumb drives, home networking and other routes

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1) File Sharing with Microsoft Windows

Microsoft Windows (and other network operating systems) contain built-in features for file sharing. For example, Windows file folders can be shared across either a local area network (LAN) or the Internet using any of several methods. You can also set up security access restrictions that control who can obtain the shared files.(Raul, N., Mhatre, S., Pawar, S., & Nagmallewar, U,2015, p.23)

2) FTP File Transfers

File Transfer Protocol (FTP) is an older but still useful method to share files on the Internet. A central computer called the FTP server holds all the files to be shared, while remote computers running FTP client software can log in to the server to obtain copies. (Sang Oh Spencer Kam Atsuya Takagi,1971, p.14)

All modern computer operating systems contain built-in FTP client software, and popular Web browsers like Internet Explorer can also be configured to run as FTP clients. Alternative FTP client programs are also available for free download on the Internet. As with Windows file sharing, security access options can be set on the FTP server requiring clients to supply a valid login name and password.

3) P2P - Peer to Peer File Sharing

Peer to peer (P2P) file sharing is a popular method for swapping large files on the Internet, particularly music and videos. Unlike FTP, most P2P file sharing systems do not use any central servers but instead allow all computers on the network to function both as a client and a server(Smith, M.,2015, 5 23).

Numerous free P2P software programs exist each with their own technical advantages and loyal community following. Instant Messaging (IM) systems are a type of P2P application most commonly used for chatting, but all popular IM software also supports sharing files.

4) Email

For decades, files have been transferred from person to person over a network using email software. Emails can travel across the Internet or within a company's intranet. Like FTP systems, email systems follow a client/server model. The sender and receiver may use different email software programs, but the sender must know the recipient's email address, and that address must be configured to allow the incoming mail. Email systems are designed for transferring small amounts of data and generally limit the size of individual files that can be shared

5) Online Sharing Services

Finally, numerous Web services built for personal and/or community file sharing exist on the Internet including well-known options like Box and Dropbox. Members post or upload their files using a Web browser or app, and others can then download copies of these files using the same tools. Some community file sharing sites charge member fees, while others are free (advertising supported). Providers often tout the cloud technology advantages of these services, although available storage space tends to be limited, and having too much personal data in the cloud is a concern for some consumers.

Each major version of the Windows operating system (O/S) released during the past 15 years has incorporated some different and improved features for sharing files between computers over a network. While the newer features are powerful, they can't always be used when sharing with devices running older versions of Windows (or non-Windows devices).

6) SkyDrive

The Microsoft SkyDrive service enables Windows computers for personal cloud storage from which files can be shared with others. Windows support for SkyDrive varies depending on O/S version:

a. Windows XP and older - do not support.
b. Windows Vista, Windows 7 and Windows 8 support SkyDrive via an installed client application.
c. Windows 8.1 has SkyDrive support integrated directly into the operating system.

SkyDrive requires registering an account with Microsoft for file storage. A free account provides only a limited amount of storage space, but the storage limit can be increased for a recurring fee

7) Home Group

Introduced first in Windows 7, Home Group optionally allows a local group of computers running Windows 7 or newer to associate with each other for sharing. Each local network can be set up with one home group that computers join by knowing the group's name and password. Users control which individual files and folders they wish to share with the home group, and they can also share local printers. Microsoft recommends using Home Group for sharing on networks unless some home PCs are running Windows XP or Windows Vista.

B. Windows Public Folder Sharing

Introduced first in Windows Vista, Public is an operating system folder specially configured for file sharing. Users can copy files and folders into this location and in turn share them with other Windows (Vista or newer) computers on the rest of the local network. Users can also allow others to update these files or post new ones into the same location.

Public folder sharing can be enabled or disabled from the Windows Advanced Sharing Settings page (Control Panel -> Network and Sharing Center -> Change advanced sharing settings).

1) Windows File Sharing Permissions

Windows 7 and newer Windows computers offer two basic permission levels for sharing files:

a. Read: recipients can open the file and view its contents but cannot change the file without making a separate copy
b. Read/Write: recipients can both view and also optionally change the file contents and save (overwrite) the file at its current location.

Windows 7 and newer additionally give the option to restrict sharing to specific people - either a specific list of people (network account names) or a Windows home group - or to anyone on the local network.

2) Reasons gain to enhance file sharing systems

- Lack of managing files and folders
- Lack of Security files.
- Files are not easily uploaded.
- It takes much time in uploading and Downloading.

C. COMPARE BETWEEN EXISTING SYSTEMS

The existing system is semi-automated system. This system gives us very less security for saving data; some data may be lost due to mismanagement. It's a limited system and fewer users friendly. Searching of particular information is very critical it takes lot of time. The users cannot able to restrict the file sharing options. The users only know his information only not others. It is very critical to share public information to all users.

The development of this new system contains the following activities, which try to automate the entire process keeping in the view of database integration approach. User Friendliness is provided in the application with various controls provided by system Rich User Interface. The system makes the overall project management much easier and flexible. It can be accessed over the Intranet. Various classes have been used for file uploading and downloading. The user information files can be stored in centralized database which can be maintained by the system. This can give the good security for user information because data is not in client machine. Authentication is provided for this application only registered users can access. User can share is data to others, and also he can get data from others. There is no risk of data management at any level while the project development is under process. Report generation features is provided using Data reports to generate different kind of reports.

1) Harvard University

Shared file storage for FAS faculty and staff and Central Administration teams and workgroups. This storage space is managed through Windows Active Directory and allows for authentication and sharing with individuals, departments, or other groups for the purpose of collaboration.

SharePoint for Harvard provides a range of functionality for projects and teams, including the ability to manage documents in a secure central location.

2) Gap analysis and direction

As you seen daily the technology rapidly changes in everyday as Moral's low illustrated, On our study it will be secure so any one without authorization to the system cannot access the system this new online system will allow remote control, easy access able, Multiple users.

III. METHODOLOGY

This study takes up experimental research design. The major purpose of utilizing is an attempt to maintain control over all factors that may affect the result of an experiment, experimental designs produce the strongest, most valid results; it represents the most valid approach to the solution of educational problems, both practical and theoretical, and to the advancement of education as a science.

A. OPERATIONAL FRAMEWORK

The operational framework of this new system will start Planning, Proposal, Introduction, Literature Review, System Development, Design, Implementation (Coding & Testing), Conclusion& Enhancement.

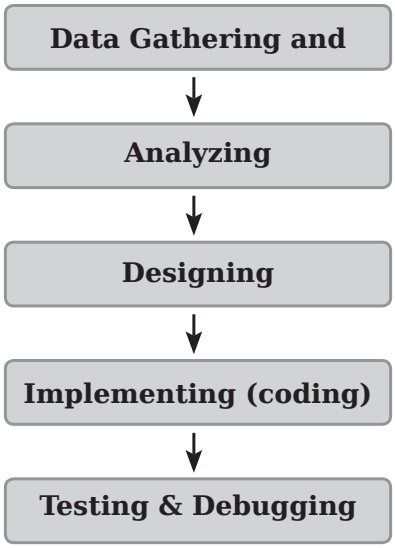

Figure 1: Operation Frame work of system

B. PRELIMINARY SYSTEM STUDY

The online file sharing student can be view semester, about the subjects, Documents can be uploaded for students to access at any time its work is to offer a quick and easy way review and critique other students' work as part of the learning process.

IV. EXPERIMENTAL REQUIREMENT

System requirement is a characteristic or feature that must be include in any information system to satisfy users. Since the Administrator and the user are the main target collection of our software, I will only concern about some important functions for the admin and the user. The system needs Applications like web browsers safari, Mozilla Firefox, Google chrome and internet connection. We include the following interfaces:

- User Interfaces: The keyboard, mouse, menus of a computer system. The user interface allows the user to communicate with the operating system.
- Software Interfaces: The languages and codes that the applications use to communicate with each other and with the hardware.
- Hardware Interfaces: The wires, plugs and sockets that hardware devices use to communicate with each other.
- Communication Interfaces: computer systems, or any other medium of communication. A physical interface is the interconnection between two items of hardware or machinery.

A. EXPERIMENT SOFTWARE REQUIREMENT SPECIFICATION

User Requirements is the process by which user desires, needs and expectations are gathered in order to start what the users will actually use the software for and recorded in a way that will be meaningful both to users and developments. The file sharing student can be view semester, about the subjects, Documents can be uploaded for students to access at any time its work is to offer a quick and easy way review and critique other students' work as part of the learning process.

No	Requirement	Description
1.	Operating system	Linux, Window, or MAC
2.	Front end	PHP
3.	Back end	MySQL
4.	Web Server	Apache

B. USER REQUIREMENTS DEFINITION

Although the current system of the File sharing is not sufficient to fulfill the needs of its Student, and the new system/website will be expected to handle all tasks automatically in connecting to the student fast and easily way to them in an online platform. This new study will have friendly GUI, flexibility, efficient environment, error tolerant, ready for 24/7 and some security features.

V. DISCUSSIONS

After more exhaust and great attempt, we successfully ended the other phases although we recognize that there can't be any complete thing done by human being but also we did our best and our project is completed successfully. According to my effort we really think that we did our best and this project is completed ninety-six per cent (96%) with good user interface design.

The online file sharing management System provides online web file management services like drop box.

This web application is developed using the latest technologies including HTML5, CSS3, COMPUTER LANGUAGE, AJAX and PHP as front end and MYSQL as the backend. The system fully implements its required goals and requirements specified in the requirement specification and make the users to gain their required graduation services effectively, efficiently and time saving way.

VI. CONCLUSION AND FUTURE WORK

We presented the importance file sharing system; we said that file sharing system is sharing files among different users across the internet. Common forms of file sharing are FTP (File Transfer Protocol) model and P2P (Peer-to-Peer) file sharing network. We invented an approach which instructors can upload documents, images, worksheets, presentations, zip files; and students can be download documents shared by the instructor or by can be viewed. As we implemented; our vision was to create a functional, competitive and research-based university which is responsive to the needs of the society through delivering world-class education and knowledge which repair our students for rewarding careers.

The main functionality for our study that we have achieved to implement includes the following:

- This system can be used to view the entire syllabus, updates details.
- The student will be able make quick download from anywhere using internet.
- Usage of this system will greatly reduce time in faculty document sharing.

VII. RECOMMENDATION

There are some weaknesses for this system. This file sharing management system has no file reading means open no video chatting or electronic data repository and it only makes the services electronically to be requested by the user and as the same served as electronically and should be solved as future enhancement. The student will not be able to view details if the server goes down; so our recommendation is to solve these problems and make more improvements as further research

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